National Aeronautics and
Space Administration

Headquarters News And Perspective

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NASA Headquarters

Headquarters News

Earth System Science Research (ESSR, used to be R&A)

- **All individual research programs (e.g., MAP, ACMAP, WAD, TE, OBB, etc.) eliminated.**
  - Research now organized into "Research Spheres:" Atmosphere, Hydrosphere, Cryosphere, Geosphere, Biosphere, Enabling Capabilities
    - Organization ostensibly prevents "laundry list" program cancelations, streamlines org.
    - "Enabling Capabilities" bundles modeling, early career research, ground networks, airborne facilities.
    - ROSES 25 & 26 Sphere solicitations planned – release ASAP.
    - Intention is to have annual solicitations for all Spheres.
    - Some difficulties getting approval from 9th floor.
    - ROSES 25 – June?
    - ROSES 26 – August?
  - NASA Earth Science Research Results Portal – please submit results, particularly recent results

Headquarters News (continued)

Integrated Earth System Modeling:

- **Large Scale Modeling assets reorganized into "Integrated Modeling Virtual Institute (IMVI)"**
  - IMVI replaces previous MAP program and consolidates other modeling efforts.
  - Impression was that ESD modeling efforts were too stovepiped.
  - 7120.8 organization (Project Office);
    - Argie Kavvada (HQ) is Program Manager,
    - Lesley Ott (GSFC) is Project Scientist.
  - GISS Model E and GMAO GEOS are components of IMVI.
    - GEOS reanalyses, GEOS-IT should not be affected.
  - Argie is also constructing an ESD-wide modeling strategy due to be released this fall.

Headquarters News (continued)

Flight News:

- Terra – anticipated end of operations: 2/2027. Not invited to Senior Review
- Aqua – anticipated maximum lifetime: 9/2027. Invited to Senior Review
- Aura - anticipated maximum lifetime: 8/2028. Invited to Senior Review
- Senior Review: April 2026.
  - Result/guidance anticipated September 2026.
- TSIS – 1: Was invited to Senior Review, currently operating nominally.
- TSIS – 2: Working on launch vehicle. Launch anticipated 1/2027.
- Libera: Integrated on JPSS-4. Launch anticipated fall, 2027.
- CLARREO-PF: Launch on CRX-34 scheduled for 7:16 PM today!!!!!
- ESO planning: FALCON (Fleet for the Atmosphere Linking Commercial Observations with NASA)
  - INCUS, PolSIR, PMM – part of the FALCON Fleet
  - FALCON-Lidar (GSFC/LaRC): 532/1064 polarized backscatter?
  - FALCON-Radar (JPL): W-band with doppler?
  - FALCON-Radiometry (Commercial - RFI released)

Headquarters News (continued)

Flight News (continued):

- Flight mission science teams eliminated (e.g., CALIPSO/CloudSat, PMM, etc.)
- Mission science teams replaced with the "Multisource Integrated Observatory" or MIO:
    - MIO will fund "DART" (Data, Applications, Research, Technology) teams.
    - Missions in prime operations will have an associated MIO DART team, with one renewal past prime operations – like previous science teams.
    - MIO will include "thematic" DART teams intended to fund teams organized around specific themes (e.g., "water", "life", "disasters.")
    - PM for MIO – John Haynes. Deputy PM – John Sullivan.
    - MIO teams will be competed in ROSES.
    - Treatment for Libera, TSIS-2 may differ - possible roll-up with CERES, currently being discussed.

Headquarters News (continued)

Data Systems:

- DAACs will be consolidated, streamlined.
  - 11 DAACs -> Thematic (Atmosphere, etc.)
  - Consolidation of common but currently independently implemented functions.
- Development of “Foundational Data Products” program.

Budget:

- Presidential Budget Request for FY 27 released April, 2026.
- Earth Science: $1,021 Billion (FY 26 Enacted was 2.153 B)
- Headquarters required to produce an ESD Budget consistent with PBR.
- Also planning for an enacted budget more in line with 2026 – or a CR.
  - A flat budget in 2027 is still considered to be the best outcome.
  - Headquarters is looking for “streamlining opportunities.”
- Libera and TSIS-2: funding for both was included in 2025 PBR
  - Funds for both mostly spent – would be a huge waste to cut at this point.

Back Up Slides

Note – a lot of interesting content here

Three Major Objectives in Implementing Earth Science in 2026

Drive Alignment with Presidential Priorities

- Advance Gold Standard Science and understanding of the Earth System
- Technology Innovation & Advancement
- Economic Growth
- Strengthen National, Regional and Local Preparedness and Resilience

Focus on Impact

- Reduce programmatic complexity of ES Research and Applied and Responsive Earth Sciences
- *Multisource Integrated Observatory* to maximize science and applications value from NASA and commercial missions
- Modeling integration to answer complex questions
- Engage the broader Earth Observation community including private sector service providers and end-users, academia, commercial EO industry, and state and local governments

Drive Efficiency

- Improved fidelity of planning for DAAC transition to Science Enabling Teams
- Focus on more rapid mission development timelines
- Streamlined and faster ROSES solicitations

Strategic **Approach**

- **Focus on NASA-unique**
  - **Flight:** Prioritize missions for which NASA is the global leader
  - **Technology:** Focus on quantum, targeted advanced sensing, rapid transition to operations and commercialization
  - **Data:** Focus on NASA data discovery and usability
  - **Science & Applications:** Focus on accelerating multi-mission/multisource discovery and pipeline to applications
  - **Applications:** Increase focus on economic sector stakeholder needs
- **Focus on National challenges**
  - Wildland fires
  - Water and food security
  - Economic growth and connections to the private sector
  - Resilience at state and local levels
- **Ensure executability**

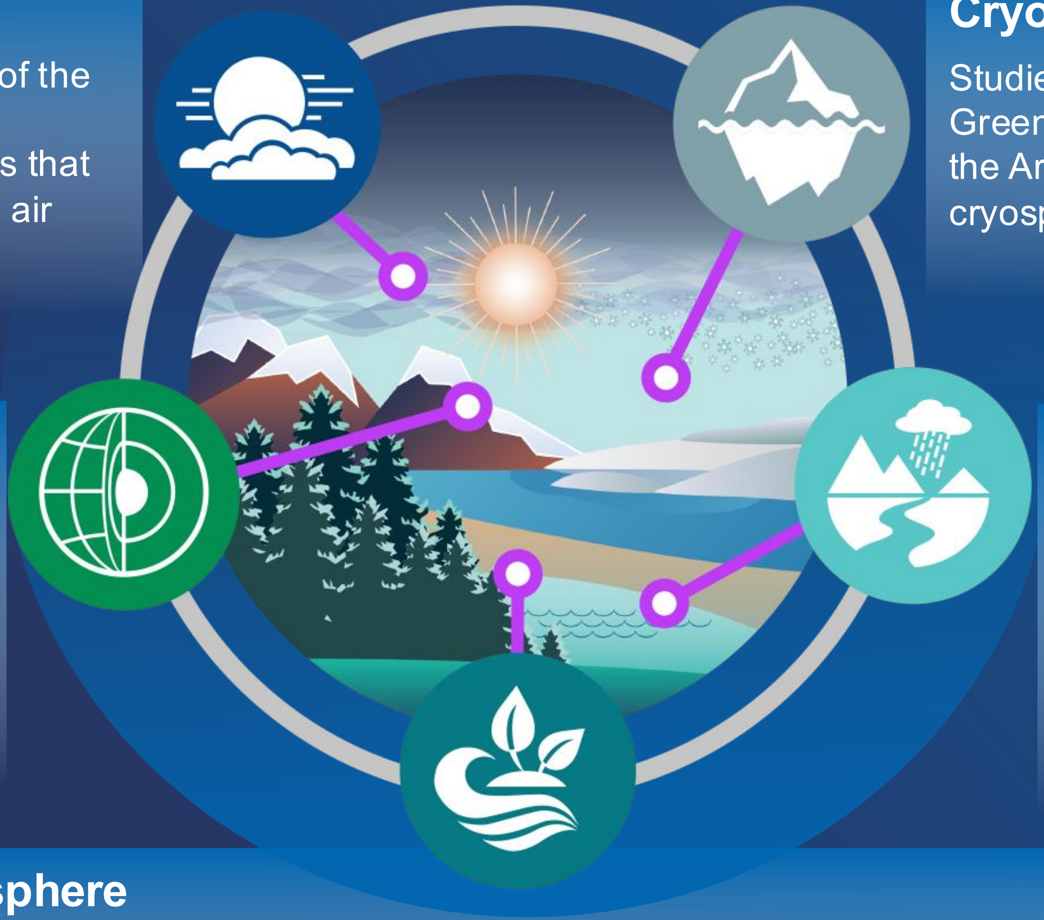
ESD Research advances Earth system science by enabling the use of satellite, airborne, and ground-based observations, along with modeling approaches, to improve understanding of Earth processes.

Atmosphere

Studies the dynamics and thermodynamics of the atmosphere, its physical and chemical composition, and the interdependent impacts that these have on the Earth's radiative balance, air quality, and weather.

Cryosphere

Studies polar ice, including the Antarctic and Greenland ice sheets, polar glaciers, sea ice in the Arctic and Southern Oceans, and the cryosphere's link to Earth system



Geosphere

Studies processes and changes in the Earth's core, mantle, and crust along with surface topography and geology, and the hazards they generate, along with studying geodesy and geodynamics.

Hydrosphere

Improves the observation, understanding, and prediction of water and energy in the Earth System across land, ocean, and the atmosphere through the integration of measurements from satellites, surface networks, and airborne campaigns.

Biosphere

Studies the interactions between/within terrestrial and aquatic ecosystems, along with changes in their biogeochemistry and biodiversity, to further understand the Earth system in which both human-induced and natural changes influence productivity and the availability of natural resources.

NASA Earth Science Research Results Portal

BioSCape grows the biodiversity remote sensing user community by delivering hands-on training opportunities.

Meetings and Events

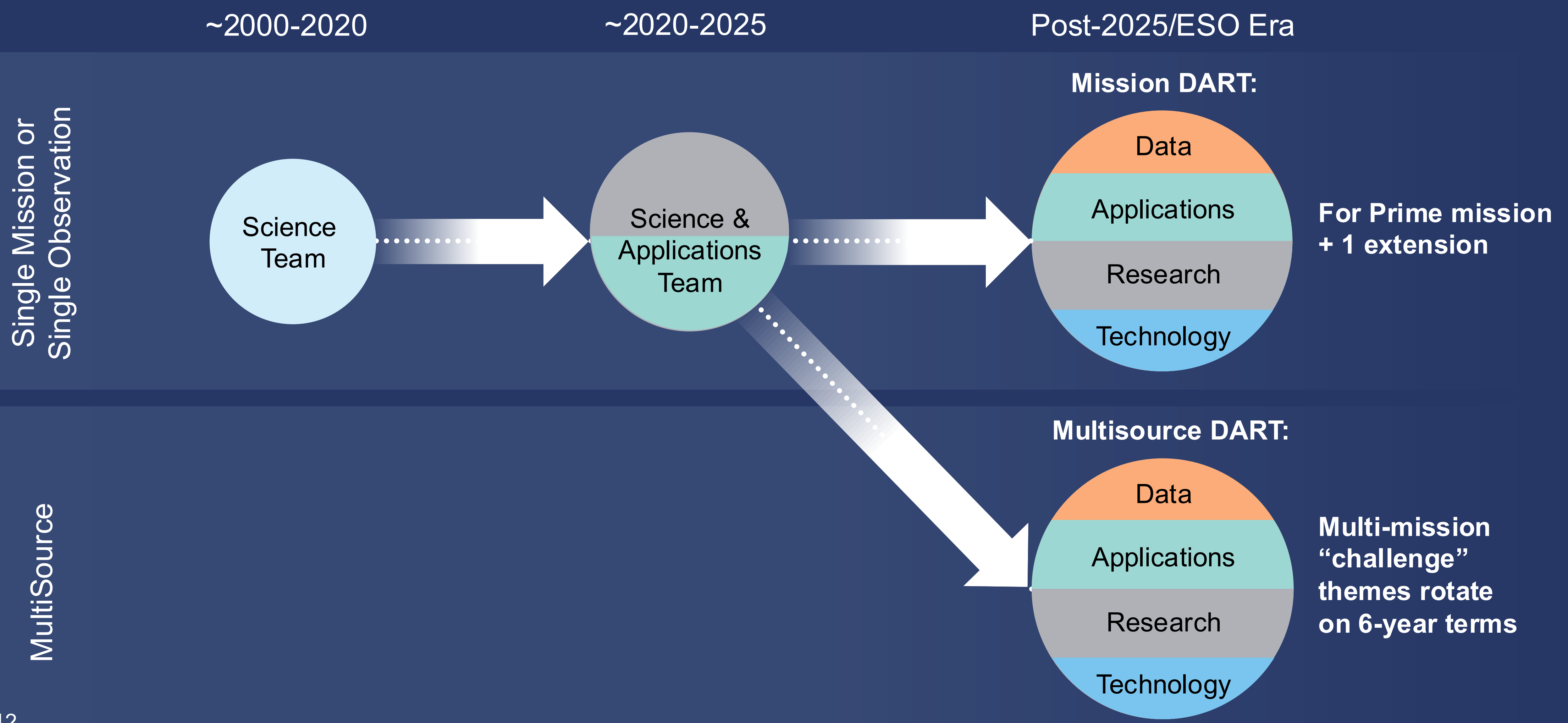
NURTURE '26 News Story on CBC Newfoundland & Labrador

Campaign Highlights

Publications and Scientific Developments

Evolution of NASA Mission Science Teams

18 Mission Teams to 10 DART Teams, including 3 interdisciplinary multisource DART teams



Multisource Integrated Observatory (MIO)

Maximizing the value and impact of NASA Earth Science by combining observations from multiple NASA missions, domestic and international partners, and commercial industry

3 multisource thematic teams solicited through ROSES 2026

WATER

Multi-source proposals that advance our understanding and decision-making ability to characterize the complete water cycle

LIFE

Multi-source proposals that advance our understanding and decision-making ability to protect life on Planet Earth

CHALLENGES (RFI)

Identifying large scale interconnected challenges that can be addressed with multisource data

Planned ROSES-26 Elements

Estimated for Summer 2026 (release date and elements subject to change)

Earth System Science

- Atmosphere
- Biosphere
- Cryosphere
- Geosphere
- Hydrosphere
- Integrated Earth System Modeling (IESM)
- Professional Engineering and Scientist Exchange Program (PESEP)

Technology

- FireSense Technology
- Intelligent Systems
- Venture Technology Accelerator

Earth Action

- Accelerating Earth Solutions
- Agriculture
- Commercial Data Calibration and Validation
- Disaster Risk Reduction, Recovery, Resilience
- Energy & Infrastructure
- INNOVATE
- User-Centered Applications from Large Earth Foundational Models

ESD and SMD

- Future Investigators in NASA Earth and Space Science and Technology (FINESST)
- Multisource Integrated Observatory (MIO)
- Rapid Response and Novel Research in Earth Science (RRNES)
- Supporting High-Impact Opportunities for Uniting Teams (SHOUT)

Data Systems Strategy

- **Focus on Core Data Systems mission**
  - Quality and Efficiency
  - Technological Evolution
  - Community Support and Open Science
- **Emphasis on**:
  - Ground-breaking science products
  - Foundational data products used by many different parts of the enterprise from research and modeling to applications
  - Near Real Time (NRT) products
- Consolidation of DAACs from 11 independent locations to thematic science enabling teams
- Structure data systems to support AI/ML and processing innovation
- Coordination with other agencies to sustain and enhance data discovery and utility

Evolving Earth Science **User Support**

PO.DAAC Ocean circulation Air-sea interactions	**OB.DAAC** Ocean biology biogeochemistry	
NSIDC DAAC Cryosphere, polar processes	**ASF DAAC** SAR products, sea ice, polar processes	**ORNL DAAC** Biogeochemical dynamics, EOS land validation
LAADS DAAC Atmosphere	**ASDC DAAC** Radiation budget, clouds, aerosols, tropo. composition	**GES DISC DAAC** Atmos composition and dynamics, global modeling, hydrology, radiance
GHRC DAAC Hydrological cycle and severe weather	**CDDIS DAAC** Crustal dynamics, solid earth	**LP DAAC** Land processes and features

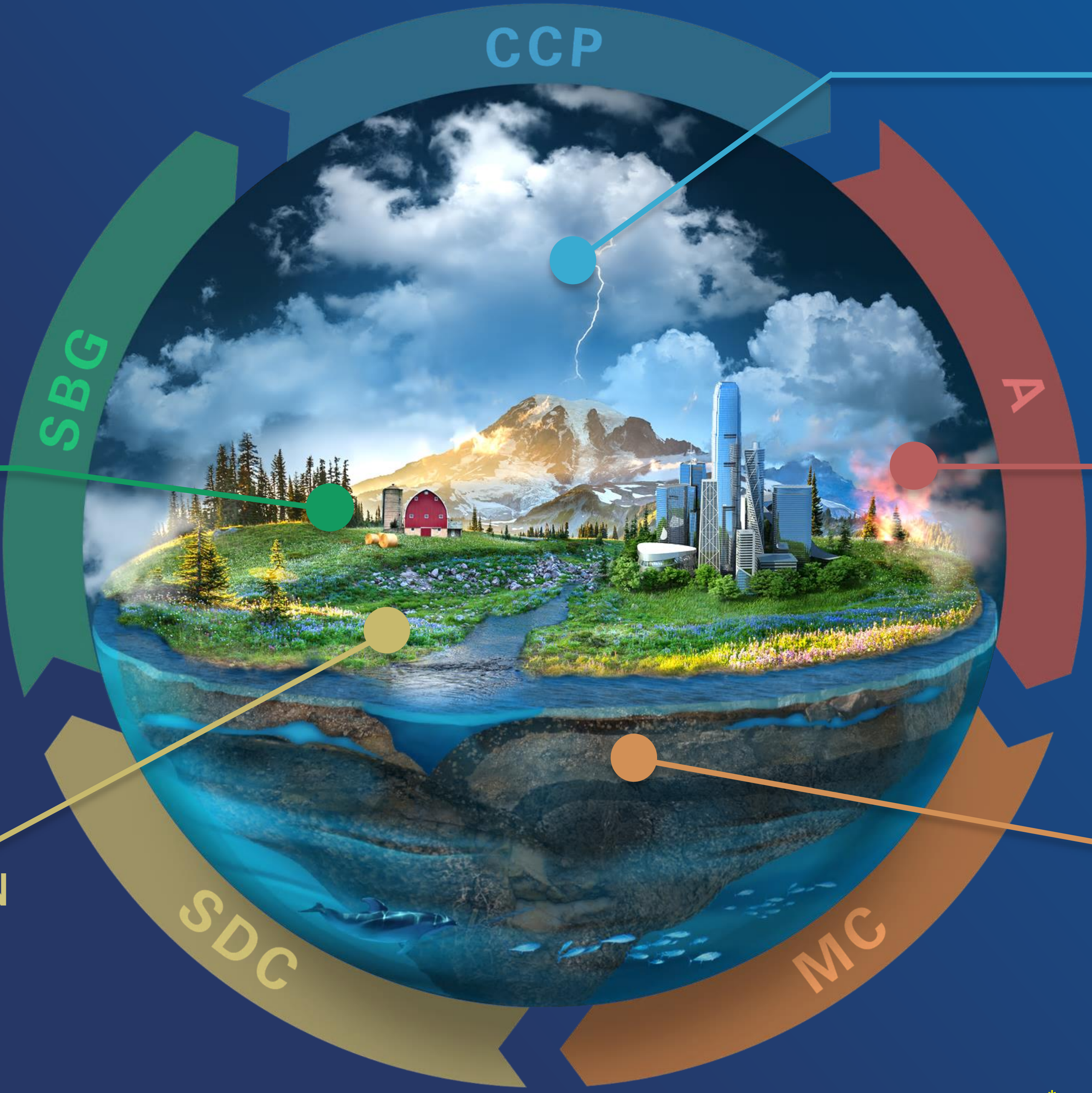
From: 11 Geographically-Distributed Full Stack Archives (DAACs)

To: Thematic Support Teams:
no anchoring physical team locations, best support regardless of geography

Centralized services:
Cloud-based ingest, archive, distribution, metrics, and cataloging

EARTH SYSTEM OBSERVATORY

INTERCONNECTED CORE MISSIONS



CLOUDS, CONVECTION AND PRECIPITATION

INCUS
PolSIR
PMM
FALCON-Lidar
FALCON-Radar

AEROSOLS

FALCON-Lidar
STRIVE

SURFACE BIOLOGY AND GEOLOGY

EAGLE-VSWIR
EDGE
EAGLE-TIR

SURFACE DEFORMATION AND CHANGE

NISAR

MASS CHANGE

GRACE-C

*contributing, competitively-selected missions

Fleet for the Atmosphere Linking Commercial Observations with NASA

FALCON

PMM (JAXA/GSFC)
Precipitation profiles

FALCON-Lidar (GSFC/LaRC)
Atmospheric structure and composition measurements

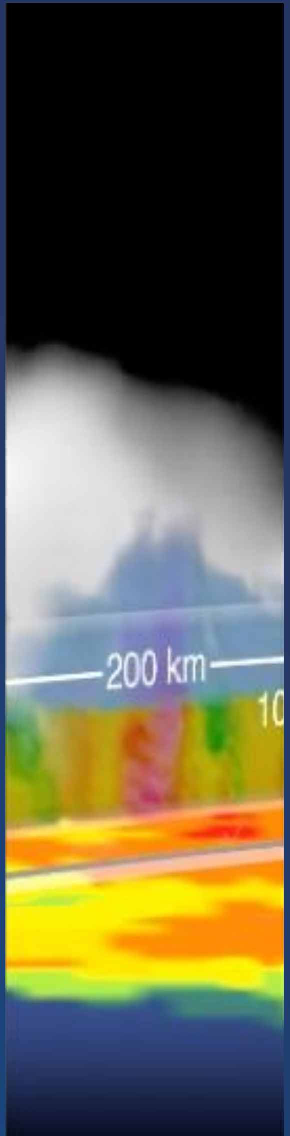
FALCON-Radar (JPL)
Cloud profiles to improve understanding of severe weather drivers.

FALCON-Radiometry (Commercial)
RFI Released this week for contribution options

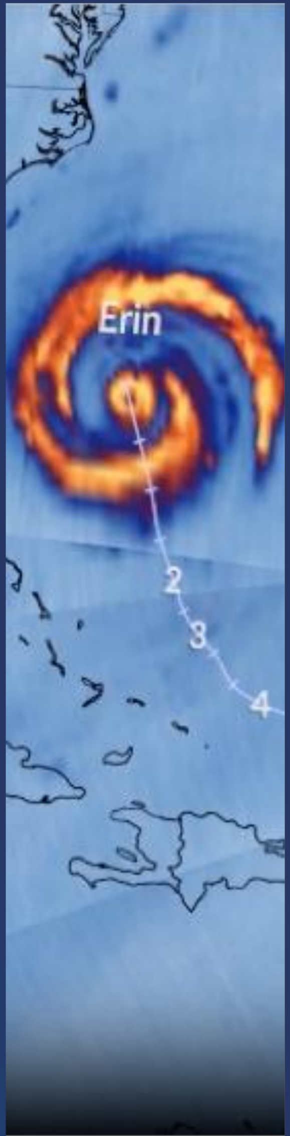
Joining the FALCON fleet

- INCUS (CSU/JPL)
- PolSIR (Vanderbilt/GSFC)
- STRIVE (UW/GSFC)

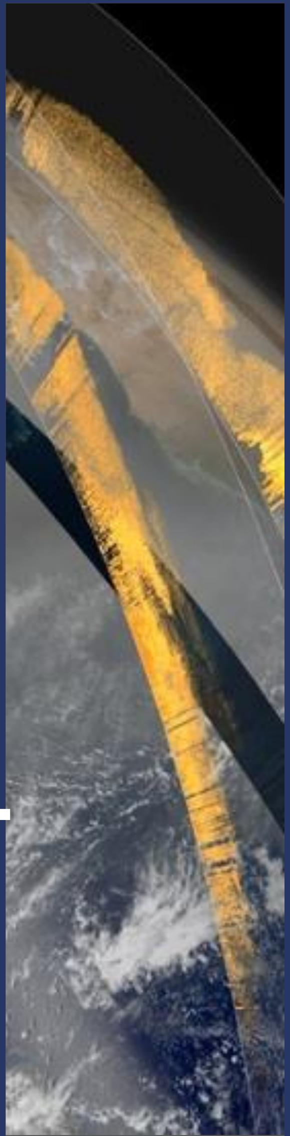
Profiles



Structure



Composition

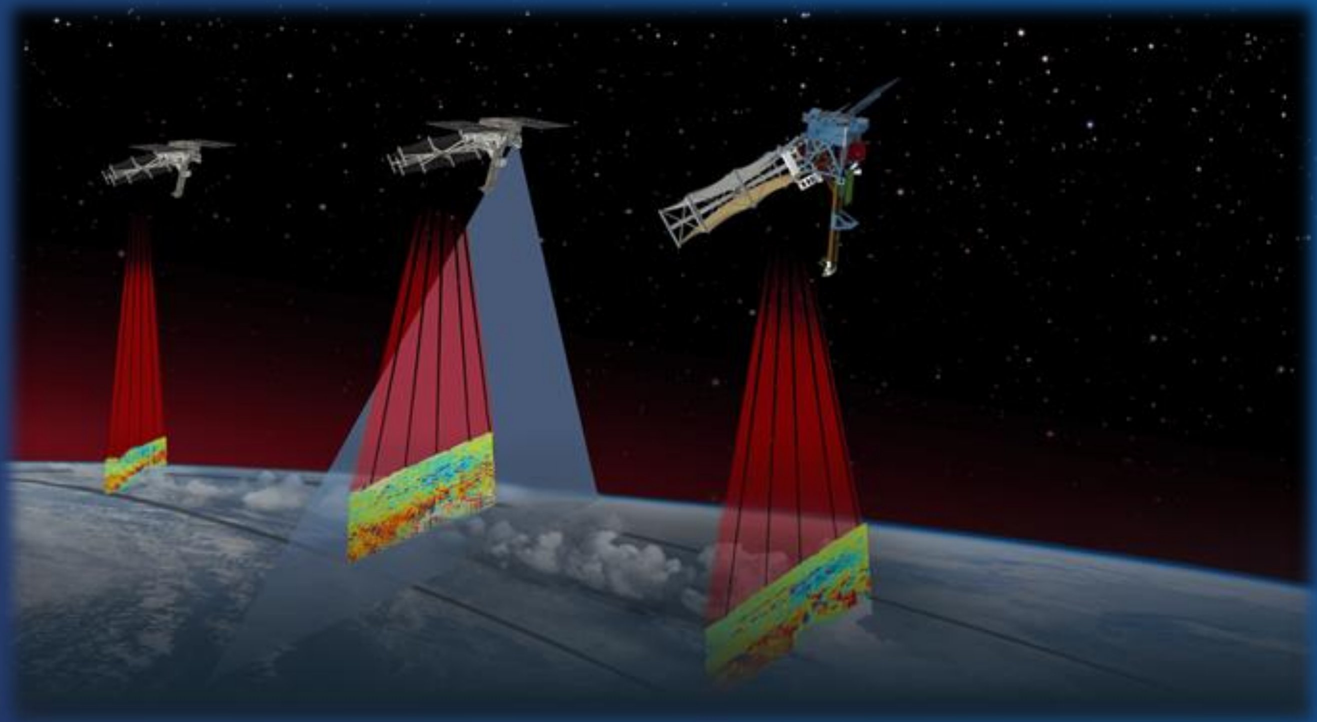


INvestigation of Convective UpdraftS
INCUS

Competed Venture Class Mission
(CSU/JPL)

- Why convective storms, heavy precipitation and clouds occur exactly when and where they do

- First ever measurements of how much water and air is lifted (convective mass flux) into the atmosphere to understand and improve prediction of severe weather



Polarized Submillimeter Ice-cloud Radiometer
PolSIR

Competed Venture Class Mission (Vanderbilt/GSFC)

- Diurnal variability of tropical and sub-tropical ice clouds to reduce a fundamental uncertainty in Earth system understanding of how and why ice clouds change throughout the day

- Deep convection re-distributes energy around the Earth, and its evolution in a changing climate is an incredibly complicated process

- Observations from PolSIR's two CubeSats will increase understanding of the diurnal cycle of deep convection

Flight Missions
In Development

Other Developments Continuing

- CLARREO Pathfinder (ISS National Lab partnership for operations)
- CRISTAL A (instrument delivered) and B (in development)
- GLIMR (instrument nearly complete)
- GRACE-C (instrument integration)
- TSIS-2 (spacecraft integration)
- Libera (spacecraft integration)
- MAIA (instrument complete)
- OMPS-Limb (integrated to spacecraft and in storage)

Launching the **Venture Tech Accelerator**

The Venture Technology Accelerator (VTA) program is a new ESTO 'Faster to Science' initiative designed to accelerate transition of next-generation Earth observation technologies to science missions, operational agencies, and/or commercial providers

Building upon the success of the In-Space Validation of Earth Science Technology (InVEST) program model, VTA aims to further accelerate tech impact and adoption by:

- Maturing high-potential Earth-observing technologies;
- Identifying transition pathways early;
- Engaging potential end users in targeted flight demonstrations and on-orbit validation planning;
- Serving as a bridge to commercialization, infusion, and operations